

## HIGH-SPEED ROUTER BACKPLANE

### ABSTRACT OF THE DISCLOSURE

5 A high-speed router backplane is disclosed. The disclosed construction and layout techniques enable the construction of a reliable, high-layer-count, and economical backplane for routers and the like that use signaling across the backplane at trace speeds of 2.5 Gbps or greater. Specific ranges of differential trace geometry characteristics, with significant single-ended coupling to adjacent ground planes, have been found to provide the parameters needed for such signaling. New trace routing and layering techniques also help in the realization of a backplane embodiment containing roughly 600 operable high-speed differential pairs, while also providing sufficient electromagnetic interference management to allow power distribution to occur within the same backplane.